UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,771	04/12/2006	Cornelis Johannes Adrianus Schetters	NL03 1227 US	3541

65913 7590 07/14/2009

NXP, B.V.
NXP INTELLECTUAL PROPERTY & LICENSING
M/S41-SJ
1109 MCKAY DRIVE
SAN JOSE, CA 95131

EXAMINER	
BEHM, HARRY RAYMOND	
ART UNIT	**PAPER NUMBER**
2838	

NOTIFICATION DATE	DELIVERY MODE
07/14/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/575,771	SCHETTERS, CORNELIS JOHANNES ADRIANUS	
	Examiner	Art Unit	
	HARRY BEHM	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6 and 12-15* is/are allowed.

6)☒ Claim(s) *1,2 and 7-11* is/are rejected.

7)☒ Claim(s) *3-5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/11/09 has been entered.

Response to Arguments

Applicant's arguments with respect to the amended claims and Kayser (US 6,295,212) have been considered but are moot in view of the new ground(s) of rejection. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., only a single electrolytic capacitor is used as described in the seventh paragraph of the specification) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balakrishnan (US 6,813,168) in view of Saleh (US 4,353,114).

With respect to Claim 1, Balakrishnan discloses a power converter (Fig. 6), comprising an input circuit having a rectifier (Fig. 6 600) configured for receiving a full-wave AC signal (Fig. 6 102) along a first conductive path (Fig. 6 600-602) and a second conductive path (Fig. 6 604), the rectifier including a single diode rectifier (Fig. 4B) and a switched mode power supply IC (Fig. 6 208) arranged to receive the DC voltage output (Fig. 6 106) from a filter (Fig. 6 602-604). Balakrishnan remains silent as to the switch mode power supply being integrated and the filter comprising a non-electrolytic capacitor.

Saleh teaches a converter with an integrated circuit (Fig. 1B 10) with a π filter (Fig. 1A C41 ,C42,C45,C46 and L1) with non-electrolytic capacitors (Fig. 1A C41 ,C46) connected in series with the input and across the first (Fig. 1A X) and second conductive paths (Fig. 1A Y), that includes a conductive impedance element (Fig. 1A L1) connected in series with the non-electrolytic capacitor (Fig. 1A C41 and arranged to extend the second conductive path to common (Fig. 1A GND symbol), the filter providing a DC voltage output (Fig. 1A voltage C45). It would have been obvious to one

of ordinary skill in the art at the time of the invention to power a switch mode power supply integrated circuit from a filter with non-electrolytic capacitors and a conductive impedance element after diode D1. The reason for doing so was “integrated circuits are now available which carry out most of the incremental signal (control) functions required therein. Such integrated circuits offer substantial cost reductions in the design of the converter” (Saleh column 1, lines 42-47) and "This filter assures a relatively steady voltage at the converter and prevents voltage ripple at the converter from being reflected back to the source" (Saleh column 3, lines 39-44).

With respect to Claim 2, Balakrishnan in view of Saleh disclose the power converter as claimed in claim 1, and remain silent as to the capacitive value of the non-electrolyitic capacitor. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the capacitance of the non-electrolytic capacitor as about 100nF. The reason for doing so was 100nF was a well known and common value for a non-electrolytic capacitor and one of ordinary skill in the art would have been able to select a capacitance of a filtering capacitor.

See MPEP 2144.05 II. OPTIMIZATION OF RANGE

A. Optimization Within Prior Art Conditions or Through Routine Experimentation Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges

by routine experimentation." In re Aller, 220 F.2d 454,456, 105 USPQ 233, 235 (CCPA 1955) (Claimed ~rocess which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.); see also Peterson, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Balakrishnan (US 6,813,168) in view of Saleh (US 4,353,114) and further in view of Balakrishnan (US 6,525,514) .

With respect to Claim 7, Balakrishnan in view of Saleh disclose the power converter as claimed in claim 1, wherein the DC voltage output of the filter is applied to

a series connection of a primary winding (Saleh Fig. 1B I), the switched mode power supply IC power transistor (Fig. 1B Q42), and a resistor (Fig. 1 R59). Balakrishnan ('168) in view of Saleh do not require the power transistor be integrated into the switch mode power supply integrated circuit.

Balakrishnan ('514) teaches a switch mode power supply integrated circuit (Fig. 1 139) in which the power transistor is integrated into the integrated circuit. It would have been obvious to one of ordinary skill in the art at the time of the invention to integrate the power transistor into the switch mode power supply integrated circuit. The reason for doing so was to reduce the size and cost as was well known at the time of the invention.

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balakrishnan (US 6,813,168) in view of Saleh (US 4,353,114) and further in view of the TEA152x family data sheet by Philips.

With respect to Claim 8, Balakrishnan in view Saleh disclose a power converter as set forth above and do not disclose the gain of the feedback loop. It would have been obvious to one of ordinary skill in the art at the time of the invention to power the Philips IC TEA1520P with the half wave rectifier and pi filter. The reason for doing so was the TEA1520P "is a Switched Mode Power Supply (SMPS) controller IC that operates directly from the rectified universal mains. It is implemented in the high voltage EZ-HV SOI process, combined with a low voltage BICMOS process. The device includes a high

voltage power switch and a circuit for start-up directly from the rectified mains voltage" (TEA 152x family data sheet page 2).

With respect to Claim 9, Kayser in view Saleh and the TEA152x Datasheet disclose a power converter as set forth above wherein the high gain feedback loop includes a multiplier arranged to diminish ripple caused by the non- electrolytic capacitor.

With respect to Claim 10, Kayser in view of Saleh and the TEA152x Datasheet disclose a power converter as set forth above wherein the multiplier is a factor 10 multiplier.

With respect to Claim 11, Kayser in view of Saleh and the TEA152x Datasheet sheet disclose a power converter as set forth above, wherein the switched mode power supply IC (Fig. 2 20) includes an internal start-up circuit having a high-voltage start-up current source and without provision of any dissipative bleeder resistor [inrush resistor external to IC].

Allowable Subject Matter

Claims 6 and 12-15 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art does not disclose or suggest, in combination with the limitations of the base claim and any intervening claims, primarily, a single diode rectifier and a filter providing a DC voltage output, the filter including a non-electrolytic capacitor connected in series with the rectifier, an electrolytic capacitor, an inrush resistor, and a coil arranged in parallel

with the inrush resistor between the electrolytic capacitor and the non-electrolytic capacitor and arranged to extend the second conductive path to common.

The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render the aforementioned indicated claim and any dependent claims thereof patentable over the art of record.

Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reasons for the indication of allowable subject matter primarily agree with the reasons for allowance indicated above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HARRY BEHM whose telephone number is (571)272-8929. The examiner can normally be reached on 7:00 am - 3:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash N. Gandhi can be reached on (571) 272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry Behm/
Examiner, Art Unit 2838